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A Pilot Study Evaluating The Impact Of Community Pharmacist-led Interventions To Optimize Antihypertensive Medicines Adherence

Background and Aims: Pharmacotherapy has an increasingly major role in the treatment of hypertension. However, antihypertensive therapy is associated with poor adherence (1) and the mechanisms for poor adherence are not uniform. The aims of this study were to evaluate the impact of community pharmacy based, pharmacist-led intervention packages targeted to patients' adherence status. Patients were categorised into adherence subgroups based upon their responses to adherence screens. Interventions intuitively designed to optimize adherence were delivered to each subgroup whilst assessing blood pressure (BP) control and changes in attitudes to adherence.

Methods: This pilot study reports the findings from the first 25 patient cohort in a larger 100 patient target population (longitudinal before-and-after study). Ethical approval was obtained from the Regional Ethical Review Board in Uppsala, Sweden (case number 2013/017). Ambulatory patients (mean age: 69 years)treated with oral antihypertensives were recruited from a community pharmacy in Uppsala. Patients made study visits (baseline (visit 0), at 6 months (visit 2)) at which BP, pulse and assessment of attitudes to medication adherence(through a triangulated approach using self-reported 8-item MMAS, MARS, and BMQ scales) were assessed. Based upon scores and responses on the 8-item MMAS, MARS and BMQ from visit 0, patients were allocated to one of four adherence subgroups: A=Adherent, IR=Intentional non-adherent rational, II=Intentional non-adherent irrational, U=Unintentional non-adherent.However, as the categorization of patients progressed, it became apparent that a small number of patients could be allocated to two adherence subgroups simultaneously (A+IR or A+II). At visit 1, (3 months) specific interventions (counseling/generic patient medication explanation leaflet/medication reminder sheet) were delivered according to patients' adherence subgroup allocation. The Wilcoxon-signed rank test was used in analysis of mean changes in systolic BP (SBP), diastolic BP (DBP) and pulse between visit 0 and visit 2. P values <0.05 were taken as significant. Results were analyzed on an intention-to-treat basis.

Results: The overall pilot study cohort was 25 of which 23 completed the visits (2 withdrew citing time constraints). In the study cohort there was a small overall reduction in mean SBP, DBP with no change in pulse. Some cases in subgroup A showed improvements in BP, whereas in A and IR, A and II no changes in BP control was seen. Subgroup II demonstrated highly variable blood pressure control. Subgroup U generally showed improvements in BP. Statistical significance was not achieved in BP or pulse changes in the cohort or any of the subgroups. See table 1for BP and pulse trends between visit 0 and 2.

Table 1. Mean values of the change in SBP, DBP and pulse between visit 0 and 2.↑=Increase ↓=Decrease

	Change in mean SBP / DBP (mmHg)	**Change in mean pulse (beats/min)**
Cohort (n=23)	4 ↓/2 ↓	No change
A (n=8)	4 ↓/4 ↓	No change
A and IR (n=3)	2 ↑/5 ↑	4 ↑
A and II (n=2)	5 ↑ /7 ↓	7 ↓
II (n=3)	4 ↑/5 ↑	1 ↓
U (n=7)	12 ↓/4 ↓	1 ↑

Conclusions: This pilot study highlights the potential value in performing antihypertensive adherence screens in community pharmacy. Patients can possibly be categorized according to their beliefs about medication and attitudes to medicines adherence, which might ultimately facilitateutilisation of individually targeted interventions delivered by a community pharmacist to optimise adherence.

1. Kaplan, NM *et al*. (2015). Kaplan'sClinical Hypertension. (11th ed.). Wolters Kluwer: Philadelphia.